

Section 10-2: Measuring Angles and Arcs

By the end of this lesson, you should be able to answer:

- How do you identify central angles, major arcs, minor arcs, and semicircles, and find their measures?
- How do you find arc length?

Vocabulary:

1. Central Angle

2. Arc

3. Minor Arc

4. Major Arc

5. Semicircle

6. Congruent Arcs

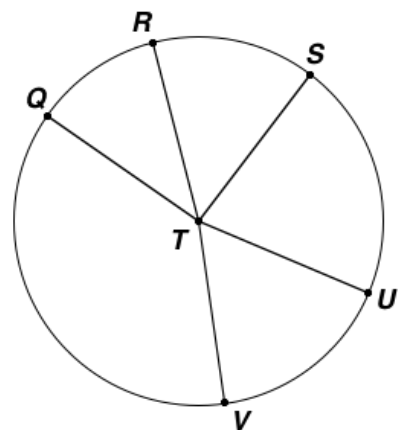
7. Adjacent Arcs

Theorem 10.1 - Congruent Arcs

Postulate 10.1 - Arc Addition Postulate

Arc Length

Example 1: Find the value of x when $m\angle QTV = (20x)^\circ$, $m\angle QTR = 40^\circ$, $m\angle RTS = (8x - 4)^\circ$, $m\angle STU = (13x - 3)^\circ$, and $m\angle VTU = (5x + 5)^\circ$.

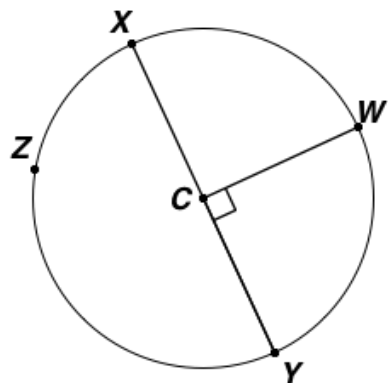


Example 2: \overline{WC} is the radius of $\odot C$. Identify each as a *major arc*, *minor arc*, or *semicircle*. Then find each measure.

a. \widehat{XZY}

b. \widehat{WZX}

c. \widehat{XW}



Example 3: Refer to the table showing the percent of bicycles bought by type at a bike shop.

Type	Mountain	Youth	Comfort	Hybrid	Other
Percent	37%	26%	21%	9%	7%

a. Find the measure of the arc of the section that represents the comfort bicycles.

b. Find the measure of the arc representing the combination of the mountain, youth, and comfort bicycles.

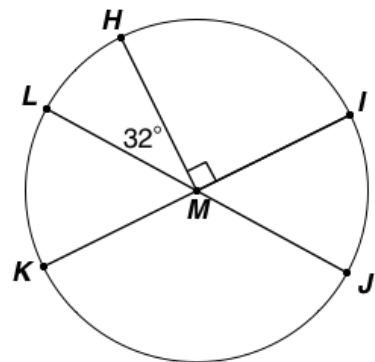
Example 4: Find the measure of each arc.

a. $m\widehat{KHL}$

b. $m\widehat{HJ}$

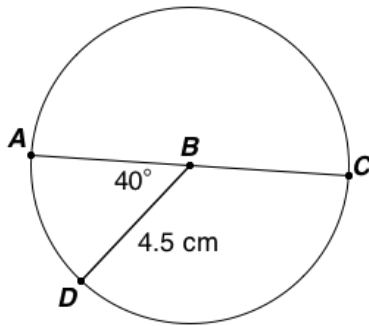
c. $m\widehat{LH}$

d. $m\widehat{KJ}$

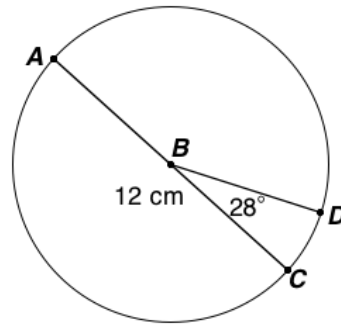


Example 5: Find the length of \widehat{DA} , rounding to the nearest hundredth.

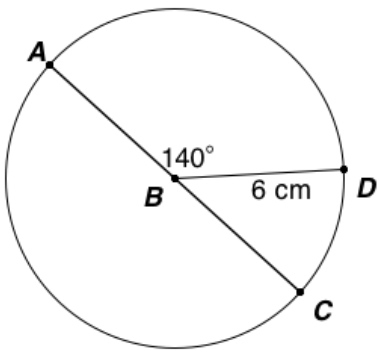
a.



b.



c.



Problem Set:

"Our lives improve only when we take chances - and the first and most difficult risk we can take is to be honest with ourselves."

- Walter Anderson